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中华人民共和国国家知识产权局

邮政编码：100037 北京市阜成门外大街2号万通新世界广场8层 中国国际贸易促进委员会专利商标事务所 杜日新 C06075	发文日期 专利局 2006.5.19 发文
申请号：2004100325230	
申请人：三菱电机株式会社	
发明创造名称：冷阴极发光元件、图像显示装置及冷阴极发光元件的制造方法	

中华人民共和国国家知识产权局 专利审查业务章 104

第一次审查意见通知书

1. ☑应申请人提出的实审请求，根据专利法第35条第1款的规定，国家知识产权局对上述发明专利申请进行实质审查。
   ☐根据专利法第35条第2款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☑申请人要求以其在：
   JP 专利局的申请日 2003年 04月 08日为优先权日，
   专利局的申请日 年 月 日为优先权日，
   专利局的申请日 年 月 日为优先权日，
   专利局的申请日 年 月 日为优先权日，
   专利局的申请日 年 月 日为优先权日。
   ☑申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。
   ☐申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本，根据专利法第30条的规定视为未提出优先权要求。
3. ☐经审查，申请人于：
   年 月 日提交的 不符合实施细则第51条的规定；
   年 月 日提交的 不符合专利法第33条的规定；
   年 月 日提交的
4. 审查针对的申请文件：
   ☑原始申请文件。 ☐审查是针对下述申请文件的
   申请日提交的原始申请文件的权利要求第 项、说明书第 页、附图第 页；
   年 月 日提交的权利要求第 项、说明书第 页、附图第 页；
   年 月 日提交的权利要求第 项、说明书第 页、附图第 页；
   年 月 日提交的权利要求第 项、说明书第 页、附图第 页；
   年 月 日提交的说明书摘要， 年 月 日提交的摘要附图。
5. ☐本通知书是在未进行检索的情况下作出的。
   ☑本通知书是在进行了检索的情况下作出的。
   ☑本通知书引用下述对比文献（其编号在今后的审查过程中继续沿用）：

编号	文件号或名称	公开日期（或抵触申请的申请日）
1	CN1396617A	2003.2.12

6. 审查的结论性意见：
   ☐关于说明书：
   ☐申请的内容属于专利法第5条规定的不授予专利权的范围。
   ☐说明书不符合专利法第26条第3款的规定。

回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
（注：凡寄给审查员个人的信函不具有法律效力）

☐说明书不符合专利法第 33 条的规定。
☐说明书的撰写不符合实施细则第 18 条的规定。
☐_____
☑关于权利要求书：
☑权利要求 1-2、4-7、9、11 不具备专利法第 22 条第 2 款规定的新颖性。
☑权利要求 3、6-15 不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☐权利要求_____不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 2 条第 1 款关于发明的定义。
☐权利要求_____不符合专利法实施细则第 13 条第 1 款的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐权利要求_____不符合专利法实施细则第 23 条的规定。
☐_____

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：
☐申请人应按照通知书正文部分提出的要求，对申请文件进行修改。
☐申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☑专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

8. 申请人应注意下述事项：
(1) 根据专利法第 37 条的规定，申请人应在收到本通知书之日起的肆个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。
(2) 申请人对其申请的修改应符合专利法第 33 条的规定，修改文本应一式两份，其格式应符合审查指南的有关规定。
(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。
(4) 未经预约，申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 3 页，并附有下述附件：
☑引用的对比文件的复印件共 1 份 47 页。☐_____

审查员：刘琼(9256)
2006 年 4 月 11 日
审查部门 审查协作中心

第一次审查意见通知书正文

申请号：2004100325230

本发明专利申请涉及一种冷阴极发光元件及其制造方法和图像显示装置。经审查，具体审查意见如下：

1、权利要求1请求保护一种冷阴极发光元件，对比文件1（CN1396617A）公开了一种电子发光元件即冷阴极发光元件，并披露了以下技术特征（见对比文件1说明书第5-14页，附图1A）：该发光元件包括配置在衬底1上的多个阴极电极2（相当于权利要求1中的第1电极），电子屏蔽层3和绝缘层4，多个配置在绝缘层4上的用于从阴极电极侧拉出电子的栅电极5（相当于权利要求1中的第2电极），阳极电极9（相当于权利要求1中的第3电极）与栅电极5面对配置，受电子入射而发光，在阳极电极9与阴极电极2之间施加用于加速电子的电压，栅电极5夹置电子屏蔽层3和绝缘层4并与多个阴极电极2交叉，其中，电子屏蔽层3可由绝缘材料制成（见对比文件1说明书第9页第6-10行）或绝缘层4的一部分可作为电子屏蔽层（见对比文件1说明书第21-23行），也就是说，电子屏蔽层3和绝缘层4可为多个绝缘层（相当于权利要求1中的多个绝缘层）。

并且，在阴极电极2和栅电极5的交叉部分中，设有开口部分6（相当于权利要求1中的孔部），该开口部分6贯通栅电极5、绝缘层4、电子屏蔽层3到达阴极电极2表面，且绝缘层4中开口部分的孔径大于电子屏蔽层3中开口部分的孔径，在电子屏蔽层3与阴极电极2侧的开口部分6中，在阴极电极2上设有如碳纤维构成的电子发射层7（见对比文件1第10页第1段，相当于权利要求1中的微细纤维结构的物质层）。

由此可知，对比文件1公开了权利要求1的全部技术特征，二者所属技术领域相同，所解决的技术问题相同，并且采用了相同的技术方案，取得了同样的技术效果，因此，相对于对比文件1，权利要求1不符合专利法第二十二条第二款有关新颖性的规定。

2、权利要求2、4、5的附加技术特征为对各绝缘层中的孔径大小关系的限定和孔径尺寸变化的限定，对比文件1公开了上述权利要求的附加技术特征（见对比文件1附图1A、8），因此，当其引用的权利要求1不具有新颖性时，权利要求2、4、5不符合专利法第二十二条第二款有关新颖性的规定。

3、权利要求3的附加技术特征为对各绝缘层中的孔径大小关系的限定和孔径尺寸变化的限定，本领域技术人员根据对比文件1公开的各绝缘层开口部分6的形状尺寸所给出的技术启示，完全可以变换开口部分的形状尺寸，并通过有限次试验得出其技术效果，不需要创造性劳动。因此，当其引用的权利要求1不具有新颖性时，权利要求3不符合专利法第二十二条第三款有关创造性的规定。

4、权利要求6、7、9的附加技术特征已在对比文件1中公开：与接触阴极电极2的电子屏蔽层3相比，绝缘层4与栅电极5有相同的图形形状；与接触阴极电极2的电子屏蔽层3是绝缘性膜材料形成的堆积绝缘层，电子屏蔽层3的厚度小于绝缘层4的厚度（见对比文件1附图1A ，说明书第9页第5-10行）。因此，当其引用的权利要求不具有新颖性或创造性时，权利要求6、7、9不符合专利法第二十二条第二款有关新颖性的规定或不符合专利法第二十二条第三款有关创造性的规定。

5、权利要求8、10的附加技术特征属于本领域制造绝缘层的公知常识，因此，当其引用的权利要求不具有新颖性或创造性时，权利要求8、10不符合专利法第二十二条第三款有关创造性的规定。

6、权利要求11请求保护一种图像显示装置，对比文件1（CN1396617A）公开了一种图像显示装置，并披露了以下技术特征（见对比文件1说明书第5-14页，附图1A）：图像显示装置采用冷阴极发光元件屏面，同时，基于对权利要求1-5的评述，当权利要求1-2、4-5不具有新颖性时，权利要求11不符合专利法第二十二条第二款有关新颖性的规定；当权利要求3不具有创造性时，权利要求11不符合专利法第二十二条第三款有关创造性的规定。

7、权利要求12请求保护一种冷阴极发光元件的制造方法，对比文件1（CN1396617A）公开了一种冷阴极发光元件的制造方法，并披露了以下技术特征（见对比文件1说明书第5-15页，附图1A）：该方法包括在形成了开口部分6的衬底的表面上形成微细纤维构成电子发射层7的工序。

权利要求12与对比文件1的方法的区别在于：（1）形成电子发射层的工序为涂敷将微细纤维结构物质分散在溶剂中所得的液体并进行干燥的工序；以及在含有所述微细纤维结构物质的干燥膜的表面上高速喷吹研磨粒子，除去该干燥膜的无用部分的工序，（2）得到权利要求1-5任一项的冷阴极发光元件。

区别技术特征（1）属于本领域公知的形成电子发射层的方法及工序，同时基于权利要求1-5的评述，当权利要求1-5不具有新颖性或创造性时，权利要求12不符合不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款有关创造性的规定。

8、权利要求13请求保护一种冷阴极发光元件的制造方法，对比文件1（CN1396617A）公开了一种冷阴极发光元件的制造方法，并披露了以下技术特征（见对比文件1说明书第5-15页，附图1A）：该方法包括在栅电极5、绝缘层4、电子屏蔽层3上形成开口部分6的工序，同时除去与开口部分对应部分并形成覆盖栅电极上的牺牲层的工序，在形成了开口部分6的牺牲层的表面上形成微细纤维构成电子发射层7的工序。

权利要求13与对比文件1的方法的区别在于：（1）形成电子发射层的工序为在所述孔部内和所述牺牲层的表面上，涂敷将所述微细纤维结构物质分散在溶剂中所得的液体并进行

干燥的工序；以及在含有所述微细纤维结构物质的干燥膜的表面上高速喷吹研磨粒子，除去该干燥膜的无用部分的工序，（2）得到权利要求1-5任一项的冷阴极发光元件。

区别技术特征（1）属于本领域公知的形成电子发射层的方法及工序，同时基于权利要求1-5的评述，当权利要求1-5不具有新颖性或创造性时，权利要求13不符合不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款有关创造性的规定。

9、权利要求14的附加技术特征属于本领域的公知常识，因此，当其引用的权利要求13不具有创造性时，权利要求14不符合专利法第二十二条第三款有关创造性的规定。

10、权利要求15请求保护一种冷阴极发光元件的制造方法，对比文件1（CN1396617A）公开了一种冷阴极发光元件的制造方法，并披露了以下技术特征（见对比文件1说明书第5-15页，附图1A）：该方法包括在阴极电极2上形成电子屏蔽层3的工序，在栅电极5、绝缘层4、电子屏蔽层3上形成开口部分6的工序，同时除去与开口部分对应部分并形成覆盖栅电极上的牺牲层的工序，在形成了开口部分6的牺牲层的表面上形成微细纤维构成电子发射层7的工序。

权利要求15与对比文件1的方法的区别在于：（1）通过选择性除去所述最下层的绝缘层，形成构成所述孔部的下端部分的所述第1电极侧的所述开口部的工序在所述开口部内和所述最下层的绝缘层的表面上，涂敷将所述微细纤维结构物质分散在溶剂中所得的液体并进行干燥的工序；以及通过对包含所述微细纤维结构物质的干燥膜进行平坦化处理，除去位于所述干燥膜的所述开口部内的部分以外的部分的工序，（2）得到权利要求1-5任一项的冷阴极发光元件。

区别技术特征（1）属于本领域公知的形成各绝缘层、开口、电子发射层的方法及工序，同时基于权利要求1-5的评述，当权利要求1-5不具有新颖性或创造性时，权利要求15不符合不具有突出的实质性特点和显著的进步，不符合专利法第二十二条第三款有关创造性的规定。

基于上述理由，本申请全部权利要求不具备新颖性或创造性，同时说明书中也没有任何可以授予专利权的实质性内容，因而即使申请人对权利要求重新组合和/或根据说明书记载的内容作进一步的限定，本申请也不具备授予专利权的前景，如果申请人不能在本通知书指定的四个月答复期限内提出表明本申请具有新颖性和创造性的充分理由，本申请将被驳回。

THE PATENT OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA

Address: 6 Xi Tu Cheng Lu, Haidian, Beijing Post Code: 100088

Applicant:	MITSUBISHI ELECTRIC CORPORATION	
Attorney:	DU RIXIN	Date of Notification:
Application No.:	200410032523.0	Date: 19 Month: 05 Year: 2006
Title of the Invention:	冷陰極発光素子、画像表示装置及び冷陰極発光素子の製造方法	

Notification of the First Office Action

1. ☒ The applicant requested examination as to substance and examination has been carried out on the above-identified patent application for invention under Article 35(1) of the Patent Law of the People's Republic of China(hereinafter referred to as "the Patent Law").
   ☐ The Chinese Patent Office has decided to examine the application on its own initiative under Article 35(2) of the Patent Law.

2. ☒ The applicant claimed priority/priorities based on the application(s):
   filed in JP on April 8, 2003, filed in _____ on _____,
   filed in _____ on _____, filed in _____ on _____,
   filed in _____ on _____, filed in _____ on _____,
   ☒ The applicant has provided the priority documents certified by the Patent Office where the priority application(s) was/were filed.
   ☐ The applicant has not provided the priority documents certified by the Patent Office where the priority application(s) was/were filed and therefore the priority claim(s) is/are deemed not to have been made under Article 30 of the Patent Law.
   ☐ The application is a PCT continuation.

3. ☐ The applicant submitted amendments to the application on _____ and on _____, wherein the amended _____ submitted on _____ and the amended _____ submitted on _____ are not acceptable, because said amendments do not comply with ☐Article 33 of the Patent Law. ☐**Rule 51 of the Implementing Regulations of the Patent Law.**
   The specific reasons why the amendments are not allowable are set forth in the text portion of this Notification.

4. ☒ Examination as to substance was directed to the initial application documents as filed.
   ☐ Examination as to substance was directed to the documents as specified below:
   pages _____ of the description, claims _____ and pages _____ of the drawings submitted on _____,
   pages _____ of the description, claims _____ and pages _____ of the drawings submitted on _____,
   pages _____ of the description, claims _____ and pages _____ of the drawings submitted on _____,
   the abstract submitted on _____, and the figure for the abstract submitted on _____.

5. ☐ This Notification is issued without search reports.
   ☒ This Notification is issued with consideration of the search results.
   ☒ Below is/are the reference document(s) cited in this Office Action(the reference number(s) will be used throughout the examination procedure):

No.	Number(s) or Title(s) of Reference(s)	Date of Publication (or the filing date of conflicting application)
1	CN1396617A	Date: 12 Month: 2 Year: 2003
2		Date: __ Month: __ Year: ____
3		Date: __ Month: __ Year: ____
4		Date: __ Month: __ Year: ____
5		Date: __ Month: __ Year: ____

6. Conclusions of the Action:
   - ☐ On the Specification:
     - ☐ The subject matter contained in the application is not patentable under Article 5 of the Patent Law.
     - ☐ The description does not comply with Article 26 paragraph 3 of the Patent Law.
     - ☐ The draft of the description does not comply with Rule 18 of the Implementing Regulations.
   - ☒ On the Claims:
     - ☐ Claim(s) _____ is/are not patentable under Article 25 of the Patent Law.
     - ☐ Claim(s) _____ does/do not comply with the definition of inventions prescribed by Rule 2 paragraph 1 of the Implementing Regulations.
     - ☒ Claim(s) 1,2,4~7,9,11 does/do not possess the novelty as required by Article 22 paragraph 2 of the Patent Law.
     - ☒ Claim(s) 3,6~15 does/do not possess the inventiveness as required by Article 22 paragraph 3 of the Patent Law.
     - ☐ Claim(s) _____ does/do not possess the practical applicability as required by Article 22 paragraph 4 of the Patent Law.
     - ☐ Claim(s) _____ does/do not comply with Article 26 paragraph 4 of the Patent Law.
     - ☐ Claim(s) _____ does/do not comply with Article 31 paragraph 1 of the Patent Law.
     - ☐ Claim(s) _____ does/do not comply with the provisions of Rules 20-23 of the Implementing Regulations.
     - ☐ Claim(s) _____ does/do not comply with Article 9 of the Patent Law.
     - ☐ Claim(s) _____ does/do not comply with the provisions of Rule 12 paragraph 1 of the Implementing Regulations.

7. In view of the conclusions set forth above, the Examiner is of the opinion that:
   - ☐ The applicant should make amendments as directed in the text portion of the Notification.
   - ☐ The applicant should expound in the response reasons why the application is patentable and make amendments to the application where there are deficiencies as pointed out in the text portion of the Notification, otherwise, the application will not be allowed.
   - ☒ The application contains no allowable invention, and therefore, if the applicant fails to submit sufficient reasons to prove that the application does have merits, it will be rejected.
   - ☐

8. The followings should be taken into consideration by the applicant in making the response:
   (1) Under Article 37 of the Patent Law, the applicant should respond to the office action within 4 months counting from the date of receipt of the Notification. If, without any justified reason, the time limit is not met, the application shall be deemed to have been withdrawn.
   (2) Any amendments to the application should be in conformity with the provisions of Article 33 of the Patent Law. Substitution pages should be in duplicate and the format of the substitution should be in conformity with the relevant provision contained in "The Examination Guidelines".
   (3) The response to the Notification and/or revision of the application should be mailed to or handed over to the "Reception Division" of the Patent Office, and documents not mailed or handed over to the Reception Divisions have no legal effect.
   (4) Without an appointment, the applicant and/or his agent shall not interview with the Examiner in the Patent Office.

9. This Notification contains a text portion of 3 pages and the following attachments:
   ☒ 1 cited reference(s), totaling 47 pages. ☐

Examination Dept. 9 Examiner: Liu Qiong Seal of the Examination Department

Text Portion

Appli. No.: 2004100325230

The present application relates to a cold cathode light-emitting device and the manufacturing method as well as the image display unit thereof. After going over the application documents, the examiner sets forth the following opinions of examination:

1. Claim 1 seeks to protect a cold cathode light-emitting device. Reference 1 (CN1396617A), however, has disclosed an electronic light-emitting device, i.e. a cold cathode light-emitting device, and especially, the following technical features (see pages 5~14 of the specification and Fig.1A of Ref.1): said light-emitting device comprises a plurality of cathode electrodes 2 (corresponding to the first electrode of claim 1), electron shielding layers 3 and insulating layers 4 all disposed on the substrate 1; a plurality of gate electrodes 5 (corresponding to the second electrode of claim 1) disposed on said insulating layers 4 for drawing out electrons from the side of said cathode electrodes 2; a plurality of anode electrodes 9 (corresponding to the third electrode of claim 1) disposed in opposition to said gate electrodes 5 for emitting light by irradiation of incoming electrons; as a voltage for accelerating electrons is applied to the space between said anode electrodes 9 and said cathode electrodes 2, the gate electrodes 5 hold the electron shielding layers 3 and the insulating layers 4 intersect plural cathode electrodes 2; the electron shielding layer 3 may be made of an insulating material (see lines 6~10 of page 9 of the specification of Ref.1), or a part of the insulating layer 4 may serve as the electron shielding layer 3 (see lines 21~23 of page 9 of the specification of Ref.1), in other words, said electron shielding layer 3 together with said insulating layer 4 may be replaced by a plurality of insulating layers (corresponding to the plural insulating layers of claim 1).

Meanwhile, the intersecting portion between said gate electrodes 5 and cathode electrodes 2 is provided with an opening portion 6 (corresponding to the

hole portion of claim 1), and said opening portion 6 travels through the gate electrodes 5, insulating layers 4 and electron shielding layers 3 and gets to the surfaces of the cathode electrodes 2. The diameter of the opening portion of the insulating layers 4 is larger than that of the opening portion of the electron shielding layers 3, and within the opening portion 6 located at the side of said electron shielding layers 3 or said cathode electrodes 2, each cathode electrode 2 is provided with an electron-emitting layer 7 made of a material such as carbon fiber (corresponding to the micro-fiber material layer of claim 1) (see paragraph 1 of page 10 of the specification of Ref.1).

It can be understood that Ref.1 has disclosed all of the technical features of claim 1, and that both Ref.1 and Claim 1 cover a common technical field, intend to solve common technical problems and obtain common technical results by taking common technical means. Therefore, claim 1, as against Ref.1, does not comply with the provision concerning the novelty of Article 22 (2) of the Chinese Patent Law (CPL).

2. The appended technical features of Claims 2, 4, 5 define further the relation and change in the size of the opening diameter for each insulating layer, Ref.1, however, has disclosed these technical features (see Figs. 1A and 8 of Ref.1). Accordingly, as cited claim 1 shows no novelty, claims 2, 4, 5 do not comply with the provision concerning the novelty of Article 22 (2) of the CPL.

3. The appended technical feature of claim 3 defines further the relation and change in the size of the opening diameter for each insulating layer. Nevertheless, in accordance with the technical suggestion given in Ref.1 for the shape or size of the opening portion 6 of each insulating layer, the personnel skilled in the art can well change the shape or size of said opening portion so as to obtain the desired technical results by making limited trials without much inventive effort. Therefore, as cited claim 1 shows no novelty, claim 3 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

4. The following appended technical features of claims 6, 7, 9 have been

disclosed in Ref.1: the insulating layer 4 and the gate electrode 5, as compared with the electron shielding layer 3 which is in touch with a cathode electrode 2, present a common shape of pattern; the electron shielding layer 3 which is in touch with a cathode electrode 2 is a stacked insulating layer made of an insulating-film material; the thickness of said electron shielding layer 3 is less than that of said insulating layer 4 (see lines 5~10 of page 9 of the specification and Fig.1A of Ref.1). Accordingly, as the cited claim shows neither novelty nor inventiveness, claims 6, 7, 9 do not comply with the provisions concerning respectively the novelty and the inventiveness of Article 22 (2) and (3) of the CPL.

5. The appended technical features of claims 8 and 10 fall under the common knowledge in the art for manufacturing an insulating layer. Therefore, as the cited claim shows neither novelty nor inventiveness, claims 8 and 10 do not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

6. Claim 11 seeks to protect an image display unit. Ref.1 (CN1396617A), however, has also disclosed an image display unit and especially, the following technical feature (see pages 5~14 of the specification and Fig.1A of Ref.1): said image display unit incorporates the screen of a cold cathode light-emitting device. From the comments given above for claims 1~5, one knows that as claims 1~2, 4~5 show no novelty, claim 11 does not comply with the provision concerning the novelty of Article 22 (2) of the CPL; and that as claim 3 shows no inventiveness, claim 11 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

7. Claim 12 seeks to protect a method for manufacturing a cold cathode light-emitting device. Ref.1, however, has also disclosed a method for manufacturing a cold cathode light-emitting device and especially, the following technical feature (see pages 5~15 of the specification and Fig. 1A of Ref.1): said method includes a step for forming an electron-emitting layer 7 made /of a micro-fiber material on the surface formed on the substrate of the opening portion 6.

The method of claim 12 varies from that of Ref.1 by that (1) said step for forming an electron-emitting layer 7 includes a sub-step in which a liquid made by adding the micro-fiber material into a solvent is applied to the surface of the electron emitting layer and then the liquid film is dried, and a sub-step in which the surface of the dried film containing said micro-fiber material is sprayed quickly with abrasive particles and then the undesired portion of the dried film is eliminated; (2) a cold cathode light-emitting device as protected by any of claims 1~5 is thus obtained.

The above-mentioned distinct feature (1) is merely a method or step commonly used in the art for forming an electron-emitting layer. Moreover, from the comments given above for claims 1~5, one knows that as claims 1~5 show no novelty or inventiveness, claim 12 shows neither outstanding or substantive features nor remarkable advantages. Accordingly, claim 12 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

8. Claim 13 seeks to protect a method for manufacturing a cold cathode light-emitting device. Ref.1 (CN1396617A), however, has also disclosed a method for manufacturing a cold cathode light-emitting device and especially, the following technical features (see pages 5~15 of the specification and Fig.1A of Ref.1): said method includes a step for forming an opening portion 6 on the gate electrodes 5, insulating layers 4 and electronic shielding layers 3; a step for eliminating the portion corresponding to the opening portion 6 and forming a sacrificial layer covering the gate electrodes at the same time; and a step for forming an electron-emitting layer 7 made of a micro-fiber material on the surface of said sacrificial layer of the opening portion 6.

The method of claim 13 varies from that of Ref.1 by that (1) the step for forming an electron-emitting layer includes a sub-step in which a liquid made by adding said micro-fiber material into a solvent is applied to the inside of the hole portion and the surface of said sacrificial layer and then the liquid film is dried, and a sub-step in which the surface of the dried film containing said micro-fiber

material is sprayed quickly with abrasive particles and then the undesired portion of the dried film is eliminated; (2) a cold cathode light-emitting device as protected by any of claims 1~5 is thus obtained.

The above-mentioned distinct feature (1) is merely a method or step commonly used in the art for forming an electron-emitting layer. Moreover, from the comments given above for claims 1~5, one knows that as claims 1~5 show no novelty or inventiveness, claim 13 shows neither outstanding or substantive features nor remarkable advantages. Accordingly, claim 13 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

9. The appended technical feature of claim 14 falls under the common knowledge in the art. Therefore, as cited claim 13 shows no inventiveness, claim 14 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

10. Claim 15 seeks to protect a method for manufacturing a cold cathode light-emitting device. Ref.1 (CN 1396617A), however, has also disclosed a method for manufacturing a cold cathode light-emitting device and especially, the following technical features (see pages 5~15 of the specification and Fig.1A of Ref.1): said method includes a step for forming an electron shielding layer 3 on a cathode electrode 2; a step for forming an opening portion 6 on the gate electrodes 5, insulating layers 4 and electron shielding layers 3; a step for eliminating the portion corresponding to the opening portion and forming a sacrificial layer covering the gate electrodes at the same time; and a step for forming an electron-emitting layer 7 made of said micro-fiber material on the surface of said sacrificial layer of the opening portion 6.

The method of claim 15 varies from that of Ref.1 by that (1) said method includes a step for eliminating the insulating layer located at the bottom by way of option so as to form an opening portion at the side of said first electrode of the lower end of said hole portion; a step for applying a liquid made by adding the micro-fiber material into a solvent to the inside of said opening portion and the

surface of said insulating layer located at the bottom layer and then the liquid film is dried; a step for eliminating the undesired portion of the dried film containing said micro-fiber material inside the opening portion by smoothing down the dried film; (2) a cold cathode light-emitting device as protected by any of claims 1~5 is thus obtained.

The above-mentioned distinct feature (1) is just a method or step commonly used in the art for forming an insulating layers, opening portion or electron-emitting layer. Moreover, from the comments given above for claims 1~5, one knows that as claims 1~5 show no novelty or inventiveness, claim 15 shows neither outstanding or substantive features nor remarkable advantages. Accordingly, claim 15 does not comply with the provision concerning the inventiveness of Article 22 (3) of the CPL.

Based upon the above reasons, none of the claims of the present application shows the novelty or inventiveness, and further, the specification has disclosed nothing substantive to be patented. Therefore, the present application will hardly have a prospect of being patented even though the applicant tries to recompose or define further the claims in view of the disclosure contained in the specification. The present application will be rejected if the applicant fails to offer arguments showing the novelty or inventiveness of the application within the reply time limit of four months as specified in this notification.

Patent Agent' s comments

In the Office action, the examiner rejects claims by Reference 1.

Since Reference 1 discloses the structure of two insulating layers and d1<d2, we think claim 1 has no novelty. Two insulating layers in an electron–emitting device of Reference 1 are: an insulating layer 4 and an electron blocking layer 3 between a cathode electrode 2 and a gate electrode 5. Similarly, claims 2~11 have no novelty and inventive steps.

The method claim 12~15 have differences from Reference 1, but the examiner considers that they have no inventive steps.

We need your instructions against the rejection.